FRI-216-1-NMTS-09(S)

A STUDY ON THE EFFECTIVENESS OF E-LEARNING
AT UNIVERSITY OF RUSE, SILISTRA BRANCH[2]

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Abstract: Teachers and lecturers are very important link in the process of gaining basic digital skills. The idea is information technologies to be included in all school subjects, so that entering school, pupils do not face a completely alien and boring world. The digital young people are future students, who will enter the lecture-halls of the universities with even greater expectations for their training. The paper presents a study on the effectiveness of e-learning, carried out at University of Ruse, Silistra Branch.

Key words: e-learning, students, lecturers, surveys

INTRODUCTION

In Gergana Passy's opinion, 66% of Bulgarians do not have basic digital skills: "we have to do a lot of work to overcome these gaps lest they become a barrier to economic development of our country" and we are still not ready for the digital future. Within Europe, Bulgaria is among the countries that have the greatest ' gaps ' in the digital skills of the different social groups. Teachers and lecturers are very important link in the process of gaining the basic digital skills. The idea is information technologies to be included in all school subjects so that entering school, pupils do not face a completely alien and boring world. The digital young people are future students, who will enter the lecture-halls of the universities with even greater expectations for their training.

Why e-learning? Because it modernizes and enriches the learning process; makes training cheaper; encourages creativity and imagination; changes quality of training; facilitates lecturers and students; it is a continuous learning process - always and everywhere. It provides better information and more choices. The emergence of e-learning is closely related to the fast development of ICT. E-learning is regarded as a system of methods, techniques and technologies for organization and presentation of different objects through ICT.

Study methodology

Study object: to examine the status of e-learning in the different specialties of the Department of Technical and Natural Sciences. Study nature: empirical qualitative research of individual cases with elements of quantitative research. Research tools: surveys, interviews, analysis of documents and virtual environments for learning. Target groups: lecturers and students, involved in e-learning.

Table 1. presents definitions of e-learning.

Table 1. Definitions of the concept "e-learning"

Broad definition	Narrower definition	The concept 'blended learning'
Training, assisted by the use of information and communication technologies	Training, which takes place in virtual learning environments (VLE), in which are included all or most of the learning activities, resources and pedagogical interaction.	Training, at which the VLE has auxiliary functions (for storing resources or only for discussions) in traditional training in general.

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[2] Presented a plenary report of May 20, 2016 with the original title: ПРОУЧВАНЕ ЕФЕКТИВНОСТТА НА ЕЛЕКТРОННО ОБУЧЕНИЕ ВЪВ ФИЛИАЛ СИЛИСТРА НА РУСЕНСКИЯ УНИВЕРСИТЕТ

The study (Appendix 1) was conducted among students trained in the following specialties in the Department of Technical and Natural Sciences, Silistra Branch, University of Ruse (fig. 1, 2, 3, 4; Table 2):

- Pedagogy of teaching Physics and Informatics - PI (fig. 7, 8, 9, 10; two academic subjects: *Object oriented programming* and *Computer graphics and image processing*; full-time students)
- Transport Vehicles and Technologies - TVT (fig. 11, 12; one academic subject - *Reliability of Vehicles*; full-time students)
- Electrical Engineering - EE (fig. 5, 6, 13, 14; two academic subjects: *Technical operation of electrical installations in industry* - full-time students; *Automatic control of machinery and equipment* - part-time students)

A survey was carried out among the lecturers (Appendix 2), teaching academic subjects in which e-learning takes place.
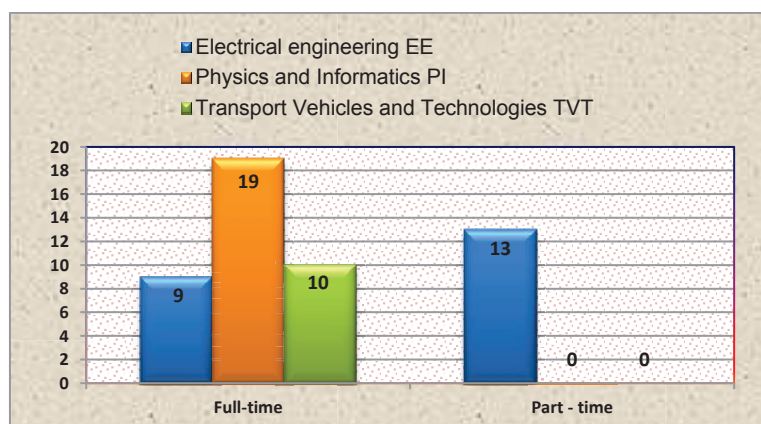
Statistics on the surveyed participants.

Fig. 1
Number of surveyed students - 51, presented by specialties and mode of study

E-learning through the eyes of the students
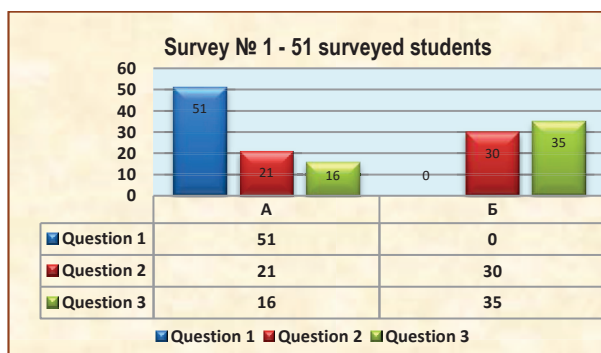**Survey 1 – 51 surveyed students, Survey 2 – 51 surveyed students**

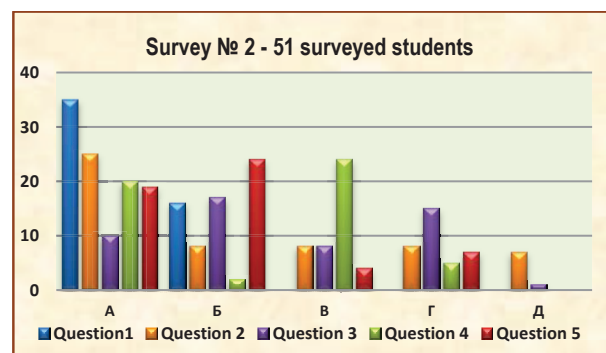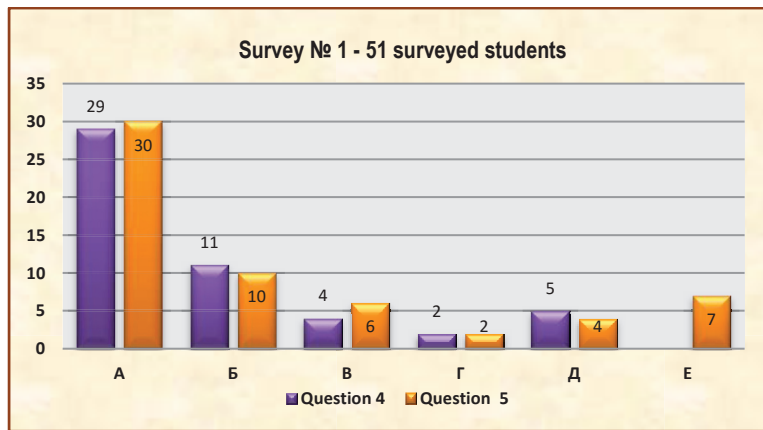Fig. 2 Legend: Question 1, 2, 3

Fig. 3 Legend: Question 1, 2, 3, 4, 5

Fig. 4 Legend: Question 4,5

Table 2

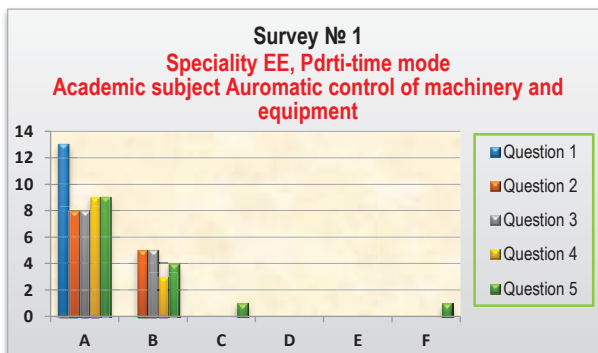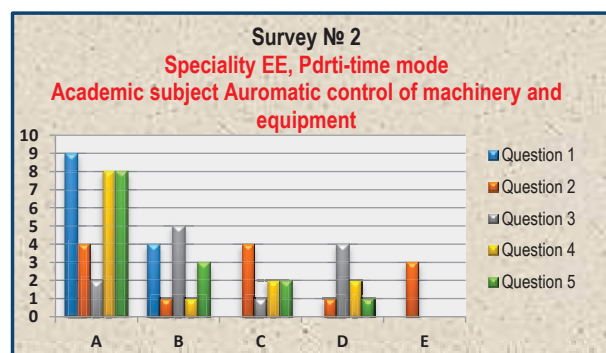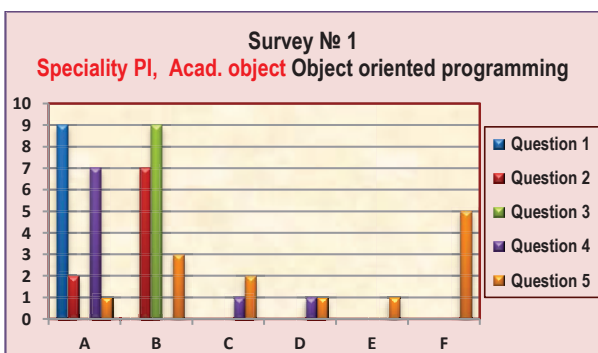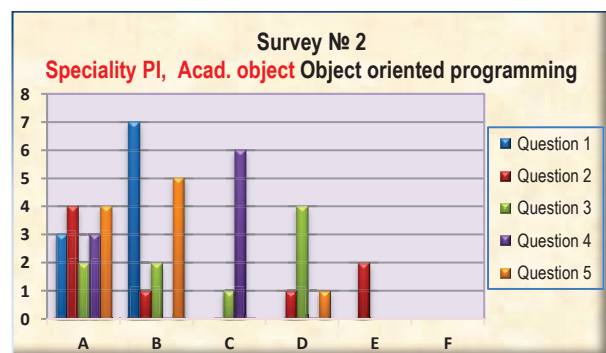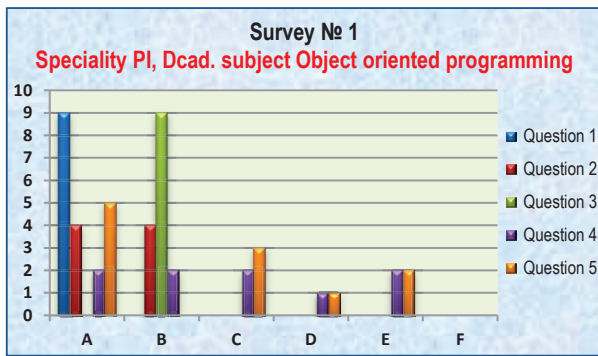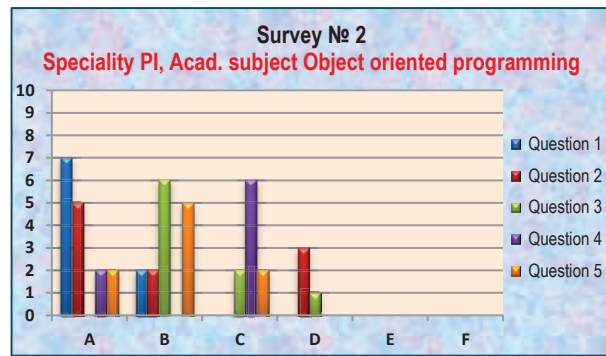| Question 4: Advantages of e-learning		Question 5: Negative aspects of e-learning	
Saves time and costs.	56,82 %	Training is too dependent on technologies	58,82%
Flexibility and mobility	21,56 %	Training is too dehumanized, too 'cold'.	19,60 %
The learning process is consistent with my educational needs.	7,84 %	I feel isolated from the rest of the participants.	11,76 %
Increases learning motivation and self-discipline.	3,92 %	Promises more than it gives.	3,92 %
Learning is exciting. Something new to try.	9,80 %	There is too much information. I can't follow the pace.	7,84 %
		I do not believe that in such an environment a qualitative learning process can take place	13,73 %

Fig. 5

Fig. 6

Fig. 7

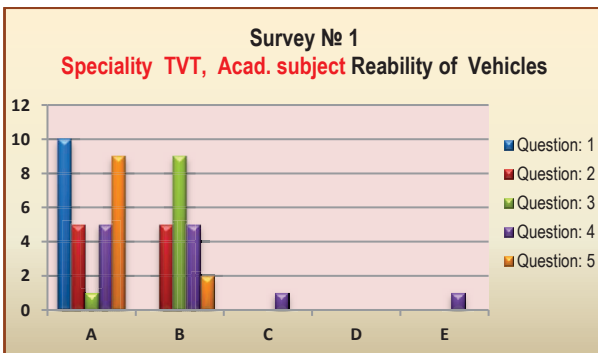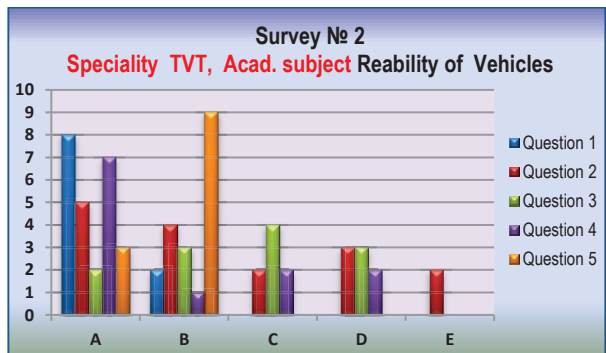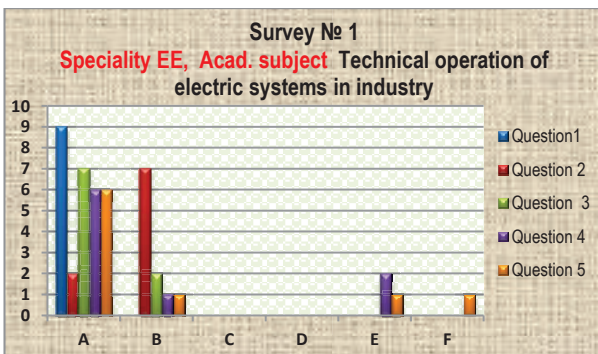
Fig. 8

Fig. 9

Fig. 10

Fig. 11

Fig. 12

Fig. 13

Fig. 14

Types of pedagogical interactions in the digital learning in the studied specialties: the analysis of the surveys indicates that at this stage the dominant type of pedagogical interactions is a student-teaching material. This teaching material in many cases is the electronic version of lectures, assignments for independent work or tests for knowledge examination. Means of asynchronous communication mainly have organizational and administrative functions during the subject training. Synchronous communication is used in the training, although:

1) It is too complex as an organization over time;

2) Some of the virtual environments used in the studied specialties, don't allow synchronous communication.

E-learning through the eyes of the lecturers

Fig. 15

Fig. 16

CONCLUSIONS

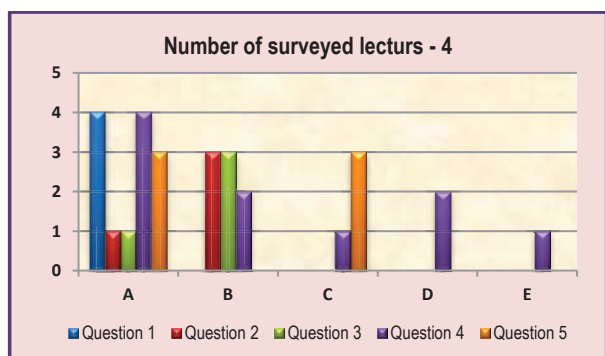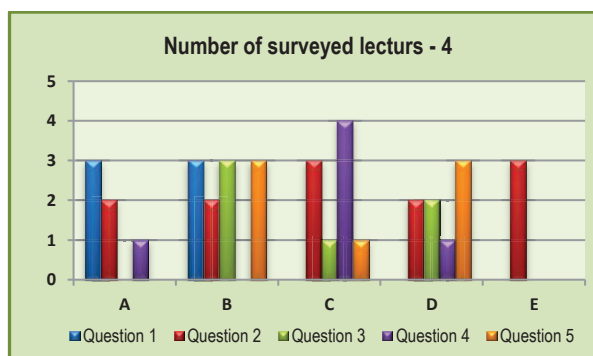Effectiveness of e-learning is the focus of attention and professional interests of lecturers and students. Continuous research on the status of e-learning is required and the results of such studies will form the decisions for the further successful integration of technologies in training. Silistra Branch 'embraced' the idea of e-learning and its implementation. It is necessary technologies to be integrated in the everyday academic and organizational life of Silistra Branch. An important condition for the development of e-learning is the availability of well-built and smooth running electronic information infrastructure. It is necessary to provide technical and administrative support and assistance to educators, involved in the e-learning.

REFERENCES:

[1] E-learning, distance education ... or the education of 21st century, Conference proceedings, International conference, Sofia, 6-8 April 2011

[2] Dimitrova V., Frantisek Lustig.Methodological aspects of e-learning on Physics, Annuaire de l'Universite de Sofia "St. Kliment Ohridski", Faculte de Physique, 104, 2011

Appendix 1

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SURVEY QUESTIONNAIRE № 1
Survey of the opinion of the students, at which training e-learning takes place, date ... ...
month........ year 2016
DEAR STUDENTS by means of this survey we are exploring your opinion about e-learning. We need your help in order our study to be useful and effective.

1. What academic degree will you obtain after completion of the programme a) Bachelor degree; b) Master degree.
2. Have you attended other e-learning courses? a) Yes b) No
3. **How would you define this e-course?** a) completely on-line; b) partly on-line
4. **Point out the advantages of e-learning** a) effectiveness - saves time and costs; b) flexibility and mobility; c) the learning process is consistent with my educational needs; d) it increases learning motivation and self-discipline; e) learning is exciting
5. **Point out the negative aspects of e-learning:** a) training is too dependent on technologies; b) training is too dehumanized, too 'cold'; c) I feel isolated from the rest of the participants; d) promises more than it gives; e) there is too much information. I can't follow the pace; f) I do not believe that in such an environment a qualitative learning process can take place.
Year of study........, specialty...................., academic subject...........
THANK YOU FOR YOUR TIME!

Angel Kanchev University of Ruse
Silistra Branch

SURVEY QUESTIONNAIRE № 2
Survey of the opinion of the students, at which training e-learning takes place, date ... ...
month........ year 2016
DEAR STUDENTS, by means of this survey we are exploring your opinion about e-learning. We need your help in order our study to be useful and effective.

1. **Express your opinion about the specificity of electronic communication a)** easy, convenient and permanent communication with lecturers and colleagues; b) access and exchange of learning materials.

2. **E-learning makes it possible to: a)** consult the lecturer; b) the curious students to receive additional help and knowledge; c) have opportunities for mutual support – forums and chat; d) carry out individual training; e) attend virtual conferences.

3. **The visualisation of teaching material in the e-learning is:** a) static; b) dynamic; c) with special impact on the interactivity; d) access to electronic resources.

4. **The assessment of the achievements of students in e-learning is carried out by**: a) online tests; b) self-evaluation; c) written examination; d) oral examination.

5. **The most inappropriate ways in applying e-learning:** a) students have difficulties in learning the material and need more clarifications; b) less opportunity for physical contact with the teacher; c) only online test assessment; (d) practical-oriented training content.

Year of study........, specialty..................., academic subject...........
THANK YOU FOR YOUR TIME!

Appendix 2

Angel Kanchev University of Ruse
Silistra Branch

SURVEY QUESTIONNAIRE № 1
Survey on the opinion of the lecturers, who are involved in e-learning ,
date ..... month........ year 2016
DEAR LECTURERS, by means of this survey we are exploring your opinion about e-learning. We need your help in order our study to be useful and effective.

1. **What degree program do you teach?** a) Bachelor degree; b) Master degree.
2. Do you carry out other e-learning courses? a) Yes; b) No
3. **How would you define this e-course?** a) Fully on-line); b) Partly on-line.
4. **Point out the advantages of e-learning** a) Effectiveness - saves time and costs; b) Flexibility and mobility; c) The learning process is consistent with my educational needs; d) Increases learning motivation and self-discipline; e) Learning is exciting.
5. **Point out the negative aspects of e-learning:** a) Training is too dependent on technologies; b) Training is too dehumanized, too 'cold'; c) I feel isolated from the rest of the participants; d) Promises more than it gives; e) There is too much information. I can't follow the pace; f) I do not believe that in such an environment a qualitative learning process can take place.

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5. **The most inappropriate ways in applying e-learning:** a) students have difficulties in learning the material and need more clarifications; b) less opportunity for physical contact with the teacher; c) only online test assessment; (d)) practical-oriented training content.

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